

## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. 2003-CE-55-AD; Amendment 39-13531; AD 2004-06-05]**

**RIN 2120-AA64**

### **Airworthiness Directives; Pilatus Aircraft Ltd. Models PC-12 and PC-12/45 Airplanes**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Final rule.

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**SUMMARY:** The FAA adopts a new airworthiness directive (AD) for all Pilatus Aircraft Ltd. (Pilatus) Models PC-12 and PC-12/45 airplanes. This AD requires you to determine whether certain main landing gear shock absorber attachment bolts have been replaced and, if not replaced, would require you to replace shock absorber attachment bolts on main landing gear assemblies that have a serial number beginning with AM001 through AM053. This AD is the result of mandatory continuing airworthiness information (MCAI) issued by the airworthiness authority for Switzerland. We are issuing this AD to detect and correct hydrogen embrittlement in the main landing gear shock absorber attachment bolts, which could result in failure of the main landing gear. This failure could lead to main landing gear collapse during operation with consequent loss of airplane control.

**DATES:** This AD becomes effective on May 6, 2004.

As of May 6, 2004, the Director of the Federal Register approved the incorporation by reference of certain publications listed in the regulation.

**ADDRESSES:** You may get the service information identified in this AD from Pilatus Aircraft Ltd., Customer Liaison Manager, CH-6371 Stans, Switzerland; telephone: +41 41 619 63 19; facsimile: +41 41 619 6224; or from Pilatus Business Aircraft Ltd., Product Support Department, 11755 Airport Way, Broomfield, Colorado 80021; telephone: (303) 465-9099; facsimile: (303) 465-6040.

You may view the AD docket at FAA, Central Region, Office of the Regional Counsel, Attention: Rules Docket No. 2003-CE-55-AD, 901 Locust, Room 506, Kansas City, Missouri 64106. Office hours are 8 a.m. to 4 p.m., Monday through Friday, except Federal holidays.

**FOR FURTHER INFORMATION CONTACT:** Doug Rudolph, Aerospace Engineer, FAA, Small Airplane Directorate, 901 Locust, Room 301, Kansas City, Missouri 64106; telephone: (816) 329-4059; facsimile: (816) 329-4090.

## **SUPPLEMENTARY INFORMATION:**

### **Discussion**

*What events have caused this AD?* The Federal Office for Civil Aviation (FOCA), which is the airworthiness authority for Switzerland, recently notified FAA that an unsafe condition may exist on Pilatus Models PC-12 and PC-12/45 airplanes. The FOCA reports that certain shock absorber attachment bolts (part number 532.10.12.110) in the main landing gear assemblies could fail during operation. Investigations revealed that an improper cadmium plating process applied to the high strength steel part causes the problem. This can cause hydrogen embrittlement.

The only bolts affected are those installed on main landing gear assemblies with a serial number that starts with AM.

What is the potential impact if FAA took no action? Failure of the main landing gear could lead to main landing gear collapse during operation with consequent loss of airplane control.

*Has FAA taken any action to this point?* We issued a proposal to amend part 39 of the Federal Aviation Regulations (14 CFR part 39) to include an AD that would apply to all Pilatus Models PC-12 and PC-12/45 airplanes. This proposal was published in the Federal Register as a notice of proposed rulemaking (NPRM) on January 9, 2004 (69 FR 1551). The NPRM proposed to require you to determine whether certain main landing gear shock absorber attachment bolts have been replaced and, if not replaced, would require you to replace shock absorber attachment bolts on main landing gear assemblies that have a serial number beginning with AM.

### **Comments**

*Was the public invited to comment?* We provided the public the opportunity to participate in developing this AD. The following presents the comments received on the proposal and FAA's response to each comment:

#### **Comment Issue No. 1: Limit the Effectivity of the AD**

*What is the commenter's concern?* Two commenters want the effectivity of the AD limited to Pilatus Models PC-12 and PC-12/45 airplanes with serial numbers 101 through 482 (as listed in Pilatus SB PC12 Service Bulletin No: 32-015, dated September 12, 2003). The commenters state that the suspected bolts have been installed on a limited number of landing gears. Further, it is very unlikely that bolts have been swapped between airplanes. The proposed effectivity to all serial numbers will place an undue burden on owners and operators.

The commenters conclude that limiting the effectivity to airplanes with serial numbers 101 through 482 is enough to assure the airworthiness of Pilatus Models PC-12 and PC-12/45 airplanes.

*What is FAA's response to the concern?* We believe that the practice of swapping bolts is rare, however, it is still possible. To help alleviate this possibility, we are including the action of a logbook check in the AD.

We also believe that the swapping of the main landing gear assemblies is possible so limiting the airplane serial numbers is not enough to assure the airworthiness of Pilatus Models PC-12 and PC-12/45 airplanes.

We are not changing the final rule AD action as a result of these comments.

#### **Comment Issue No. 2: Limit Effectivity on the Shock-Absorber Attachment Bolts**

*What is the commenter's concern?* Two commenters note that main landing gear assemblies with new bolts (part number (P/N) 532.10.12.110) marked "AT" or "VLG" are good bolts and do not require replacement.

The commenters request limiting the effectivity of the AD to those P/N 532.10.12.110 bolts not marked "AT" or "VLG."

*What is FAA's response to the concern?* We agree that the main landing gear assemblies with new bolts (part number (P/N) 532.10.12.110) marked "AT" or "VLG" are good bolts and do not require replacement.

We are changing the final rule AD action accordingly to reflect the commenters' request.

### **Comment Issue No. 3: AD Is Not Needed**

*What is the commenter's concern?* One commenter suggests that the aviation industry has influence over FAA. Further, FAA neglects the public's concerns.

We infer that the commenters want us to withdraw the NPRM.

*What is FAA's response to the concern?* Through the NPRM process, FAA provides the public opportunity to comment on and influence the AD action.

Since the commenter gave no specific reasons to withdraw or change the proposed rule, we are not changing the final rule AD action as a result of these comments.

### **Comment Issue No. 4: Limit Effectivity on the Main Landing Gear Assemblies**

*What is the commenter's concern?* One commenter requests that FAA limit the effectivity on the main landing gear assemblies to those assemblies with the serial numbers that start "AM001" through "AM053" since Pilatus has identified these were assembled with the defective bolts. The commenter notes that limiting the effectivity will lessen the impact on owners/operators.

*What is FAA's response to the concern?* The FAA agrees that the AD should limit the effectivity on the main landing gear assemblies.

We are changing the final rule AD action accordingly.

### **Conclusion**

*What is FAA's final determination on this issue?* We have carefully reviewed the available data and determined that air safety and the public interest require adopting the AD as proposed except for the changes discussed above and minor editorial corrections. We have determined that these changes and minor corrections:

- Are consistent with the intent that was proposed in the NPRM for correcting the unsafe condition; and

- Do not add any additional burden upon the public than was already proposed in the NPRM.

### **Changes to 14 CFR Part 39–Effect on the AD**

*How does the revision to 14 CFR part 39 affect this AD?* On July 10, 2002, the FAA published a new version of 14 CFR part 39 (67 FR 47997, July 22, 2002), which governs the FAA's AD system. This regulation now includes material that relates to altered products, special flight permits, and alternative methods of compliance. This material previously was included in each individual AD. Since this material is included in 14 CFR part 39, we will not include it in future AD actions.

### **Costs of Compliance**

*How many airplanes does this AD impact?* We estimate that this AD affects 260 airplanes in the U.S. registry.

*What is the cost impact of this AD on owners/operators of the affected airplanes?* The manufacturer will provide parts free of charge and will pay for the estimated 3 workhours required to do the inspection and replacement of the shock absorber attachment bolts.

### **Compliance Time of This AD**

*What will be the compliance time of this AD?* The compliance time of this AD is within the next 30 calendar days after the effective date of this AD.

*Why is this compliance time presented in calendar time instead of hours time-in-service (TIS)?* The unsafe condition exists or could develop on airplanes equipped with the affected parts regardless of airplane operation. For example, the unsafe condition has the same chance of occurring on an airplane with 50 hours TIS as it does on one with 5,000 hours TIS. Therefore, we are presenting the compliance time of this AD in calendar time instead of hours TIS.

### **Regulatory Findings**

*Will this AD impact various entities?* We have determined that this AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

*Will this AD involve a significant rule or regulatory action?* For the reasons discussed above, I certify that this AD:

1. Is not a "significant regulatory action" under Executive Order 12866;
2. Is not a "significant rule" under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); and
3. Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

We prepared a summary of the costs to comply with this AD and placed it in the AD Docket. You may get a copy of this summary by sending a request to us at the address listed under ADDRESSES. Include "AD Docket No. 2003-CE-55-AD" in your request.

### **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

### **Adoption of the Amendment**

Accordingly, under the authority delegated to me by the Administrator, the Federal Aviation Administration amends part 39 of the Federal Aviation Regulations (14 CFR part 39) as follows:

### **PART 39—AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

#### **§ 39.13 [Amended]**

2. FAA amends § 39.13 by adding a new AD to read as follows:

# AIRWORTHINESS DIRECTIVE

Aircraft Certification Service  
Washington, DC



U.S. Department  
of Transportation  
**Federal Aviation  
Administration**

*We post ADs on the internet at "[www.faa.gov](http://www.faa.gov)"*

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The following Airworthiness Directive issued by the Federal Aviation Administration in accordance with the provisions of Title 14 of the Code of Federal Regulations (14 CFR) part 39, applies to an aircraft model of which our records indicate you may be the registered owner. Airworthiness Directives affect aviation safety and are regulations which require immediate attention. You are cautioned that no person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of the Airworthiness Directive (reference 14 CFR part 39, subpart 39.3).

**2004-06-05 Pilatus Aircraft Ltd.:** Amendment 39-13531; Docket No. 2003-CE-55-AD.

## **When Does This AD Become Effective?**

- (a) This AD becomes effective on May 6, 2004.

## **What Other ADs Are Affected by This Action?**

- (b) None.

## **What Airplanes Are Affected by This AD?**

- (c) This AD affects Models PC-12 and PC-12/45 airplanes, all serial numbers, that are certificated in any category.

## **What is the Unsafe Condition Presented in This AD?**

- (d) This AD is the result of mandatory continuing airworthiness information (MCAI) issued by the airworthiness authority for Switzerland. The actions specified in this AD are intended to detect and correct hydrogen embrittlement in the main landing gear shock absorber attachment bolts, which could result in failure of the main landing gear. This failure could lead to main landing gear collapse during operation with consequent loss of airplane control.

## **What Must I do To Address This Problem?**

- (e) To address this problem, you must do the following:

Actions	Compliance	Procedures
<p>(1) Maintenance Records Check:</p> <p>(i) Check the maintenance records to determine whether the main landing gear (MLG) shock absorber attachment bolts (part number (P/N) 532.10.12.110) have been replaced. The bolts must have been replaced by following Pilatus PC12 Service Bulletin No: 32–015, dated September 12, 2003. The owner/operator holding at least a private pilot certificate as authorized by section 43.7 of the Federal Aviation Regulations (14 CFR 43.7) may perform this check.</p> <p>(ii) If, by checking the maintenance records, the owner/operator can definitely show that the MLG gear shock absorber attachment bolts (P/N 532.10.12.110) have been replaced (by following Pilatus PC12 Service Bulletin No: 32–015, dated September 12, 2003), then report the removal of any bolts to FAA at the address in paragraph (f) of this AD. You must make an entry into the aircraft records that shows compliance with this portion of the AD in accordance with section 43.9 of the Federal Aviation Regulations (14 CFR 43.9).</p>	<p>Within the next 30 calendar days after May 6, 2004 (the effective date of this AD), unless already done.</p>	<p>No special procedures necessary to check the maintenance records.</p>
<p>(2) If you find as a result of the check in paragraph (e)(1) that there is no record of bolt replacement, inspect the left and right MLG assemblies (P/N 532.10.12.049 and P/N 532.10.12.050) for any serial number beginning with AM001 through AM053. You may choose to do the inspection without doing the logbook check.</p>	<p>Within the next 30 calendar days after May 6, 2004 (the effective date of this AD), unless already done.</p>	<p>Follow the Accomplishment Instructions of Pilatus PC12 Service Bulletin No: 32–015, dated September 12, 2003.</p>
<p>(3) If during the inspection required by paragraph (e)(2) of this AD, you find any MLG assembly with a serial number beginning with AM001 through AM053, replace any shock absorber bolts (P/N inspection 532.10.12.110) NOT MARKED with “AT” or “VLG” with new bolts.</p>	<p>Before further flight after the inspection required by paragraph (e)(2) of this AD.</p>	<p>Follow the Accomplishment Instructions of Pilatus PC12 Service Bulletin No: 32–015, dated September 12, 2003.</p>
<p>(4) After removal of the shock absorber bolts (P/N 532.10.12.110), send the old removed bolts to Pilatus. Report this to FAA at the address in paragraph (f) of this AD. The Office of Management and Budget (OMB) approved the information collection requirements contained in this regulation under the provisions of the Paperwork Reduction Act of 1980 (44 U.S.C. 3501 <i>et seq.</i>) and assigned OMB Control Number 2120–0056.</p>	<p>Within the next 30 calendar days after May 6, 2004 (the effective date of this AD), unless already done.</p>	<p>Not Applicable.</p>
<p>(5) Before installing any left or right MLG assembly (P/N 532.10.12.049 or P/N 532.10.12.050) that has a serial number beginning with AM, ensure that the shock absorber bolts (P/N 532.10.12.110) NOT MARKED with “AT” or “VLG” have been replaced, and, if not, replace with new bolts.</p>	<p>As of May 6, 2004 (the effective date of this AD).</p>	<p>Follow Pilatus PC12 Service Bulletin No: 32–015, dated September 12, 2003</p>

### **May I Request an Alternative Method of Compliance?**

(f) You may request a different method of compliance or a different compliance time for this AD by following the procedures in 14 CFR 39.19. Unless FAA authorizes otherwise, send your request to your principal inspector. The principal inspector may add comments and will send your request to the Manager, Standards Office, Small Airplane Directorate, FAA. For information on any already approved alternative methods of compliance, contact Doug Rudolph, Aerospace Engineer, FAA, Small Airplane Directorate, 901 Locust, Room 301, Kansas City, Missouri 64106; telephone: (816) 329-4059; facsimile: (816) 329-4090.

### **Does This AD Incorporate Any Material by Reference?**

(g) You must do the actions required by this AD following the instructions in Pilatus PC12 Service Bulletin No: 32-015, dated September 12, 2003. The Director of the Federal Register approved the incorporation by reference of this service bulletin in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. You may get a copy from Pilatus Aircraft Ltd., Customer Liaison Manager, CH-6371 Stans, Switzerland; telephone: +41 41 619 63 19; facsimile: +41 41 619 6224; or from Pilatus Business Aircraft Ltd., Product Support Department, 11755 Airport Way, Broomfield, Colorado 80021; telephone: (303) 465-9099; facsimile: (303) 465-6040. You may review copies at FAA, Central Region, Office of the Regional Counsel, 901 Locust, Room 506, Kansas City, Missouri 64106; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

### **Is There Other Information That Relates to This Subject?**

(h) Swiss AD Number HB 2003-522, dated November 14, 2003, also addresses the subject of this AD.

Issued in Kansas City, Missouri, on March 15, 2004.  
James E. Jackson,  
Acting Manager, Small Airplane Directorate, Aircraft Certification Service.  
[FR Doc. 04-6260 Filed 3-23-04; 8:45 am]  
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